**3.2 – Balancing Chemical Reactions – Practice**

Practice the following questions. Remember, practice makes perfect! An answer key is provided on the back of this page.

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| 1 | **H2 + O2 => H2O** |
| 2 | **H3PO4 + KOH => K3PO4 + H2O** |
| 3 | **K + B2O3 => K2O + B** |
| 4 | **HCl + NaOH => NaCl + H2O** |
| 5 | **Na + NaNO3 => Na2O + N2** |
| 6 | **C + S8 => CS2** |
| 7 | **Na + O2 => Na2O2** |
| 8 | **N2 + O2 => N2O5** |
| 9 | **H3PO4 + Mg(OH)2 => Mg3(PO4)2 + H2O** |
| 10 | **NaOH + H2CO3 => Na2CO3 + H2O** |
| 11 | **KOH + HBr => KBr + H2O** |
| 12 | **H2 + O2 => H2O2** |
| 13 | **Na + O2 => Na2O** |
| 14 | **Al(OH)3 + H2CO3 => Al2(CO3)3 + H2O** |
| 15 | **Al + S8 => Al2S3** |
| 16 | **Cs + N2 => Cs3N** |
| 17 | **Mg + Cl2 => MgCl2** |
| 18 | **Rb + RbNO3 => Rb2O + N2** |
| 19 | **C6H6 + O2 => CO2 + H2O** |
| 20 | **N2 + H2 => NH3** |
| 21 | **C10H22 + O2 => CO2 + H2O** |
| 22 | **Al(OH)3 + HBr => AlBr3 + H2O** |
| 23 | **CH3CH2CH2CH3 + O2 => CO2 + H2O** |
| 24 | **C + O2 => CO2** |
| 25 | **C3H8 + O2 => CO2 + H2O** |
| 26 | **Li + AlCl3 => LiCl + Al** |
| 27 | **C2H6 + O2 => CO2 + H2O** |
| 28 | **NH4OH + H3PO4 => (NH4)3PO4 + H2O** |
| 29 | **Rb + P => Rb3P** |
| 30 | **CH4 + O2 => CO2 + H2O** |
| 31 | **Al(OH)3 + H2SO4 => Al2(SO4)3 + H2O** |
| 32 | **Na + Cl2 => NaCl** |
| 33 | **Rb + S8 => Rb2S** |
| 34 | **H3PO4 + Ca(OH)2 => Ca3(PO4)2 + H2O** |
| 35 | **NH3 + HCl => NH4Cl** |
| 36 | **Li + H2O => LiOH + H2** |
| 37 | **Ca3(PO4)2 + SiO2 + C => CaSiO3 + CO + P** |
| 38 | **NH3 + O2 => N2 + H2O** |
| 39 | **FeS2 + O2 => Fe2O3 + SO2** |
| 40 | **C + SO2 => CS2 + CO** |

Solutions:

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| 1 | **2 H2 + O2 => 2 H2O** |
| 2 | **H3PO4 + 3 KOH => K3PO4 + 3 H2O** |
| 3 | **6 K + B2O3 => 3 K2O + 2 B** |
| 4 | **HCl + NaOH => NaCl + H2O** |
| 5 | **10 Na + 2 NaNO3 => 6 Na2O + N2** |
| 6 | **4 C + S8 => 4 CS2** |
| 7 | **2 Na + O2 => Na2O2** |
| 8 | **2 N2 + 5 O2 => 2 N2O5** |
| 9 | **2 H3PO4 + 3 Mg(OH)2 => Mg3(PO4)2 + 6 H2O** |
| 10 | **2 NaOH + H2CO3 => Na2CO3 + 2 H2O** |
| 11 | **KOH + HBr => KBr + H2O** |
| 12 | **H2 + O2 => H2O2** |
| 13 | **4 Na + O2 => 2 Na2O** |
| 14 | **2 Al(OH)3 + 3 H2CO3 => Al2(CO3)3 + 6 H2O** |
| 15 | **16 Al + 3 S8 => 8 Al2S3** |
| 16 | **6 Cs + N2 => 2 Cs3N** |
| 17 | **Mg + Cl2 => MgCl2** |
| 18 | **10 Rb + 2 RbNO3 => 6 Rb2O + N2** |
| 19 | **2 C6H6 + 15 O2 => 12 CO2 + 6 H2O** |
| 20 | **N2 + 3 H2 => 2 NH3** |
| 21 | **2 C10H22 + 31 O2 => 20 CO2 + 22 H2O** |
| 22 | **Al(OH)3 + 3 HBr => AlBr3 + 3 H2O** |
| 23 | **2 CH3CH2CH2CH3 + 13 O2 => 8 CO2 + 10 H2O** |
| 24 | **C + O2 => CO2** |
| 25 | **C3H8 + 5 O2 => 3 CO2 + 4 H2O** |
| 26 | **3 Li + AlCl3 => 3 LiCl + Al** |
| 27 | **2 C2H6 + 7 O2 => 4 CO2 + 6 H2O** |
| 28 | **3 NH4OH + H3PO4 => (NH4)3PO4 + 3 H2O** |
| 29 | **3 Rb + P => Rb3P** |
| 30 | **CH4 + 2 O2 => CO2 + 2 H2O** |
| 31 | **2 Al(OH)3 + 3 H2SO4 => Al2(SO4)3 + 6 H2O** |
| 32 | **2 Na + Cl2 => 2 NaCl** |
| 33 | **16 Rb + S8 => 8 Rb2S** |
| 34 | **2 H3PO4 + 3 Ca(OH)2 => Ca3(PO4)2 + 6 H2O** |
| 35 | **NH3 + HCl => NH4Cl** |
| 36 | **2 Li + 2 H2O => 2 LiOH + H2** |
| 37 | **Ca3(PO4)2 + 3 SiO2 + 5 C => 3 CaSiO3 + 5 CO + 2 P** |
| 38 | **4 NH3 + 3 O2 => 2 N2 + 6 H2O** |
| 39 | **4 FeS2 + 11 O2 => 2 Fe2O3 + 8 SO2** |
| 40 | **5 C + 2 SO2 =>  CS2 + 4 CO** |